

übergegangen wäre. Da Sie sicherlich eine grosse Rolle in der Wissenschaft spielen werden, so erlauben Sie mir, als älterem Mann, Sie ernstlich zu bitten, über das nachzudenken, was ich zu sagen gewagt habe. Ich weiss, dass es leicht ist zu predigen und scheue mich nicht, zu sagen, dass, wenn ich das Vermögen besässe, mit treffender Schärfe zu schreiben, ich meinen Triumph darin setzen würde, den armen Teufeln das Innere nach aussen zu kehren und ihre ganze Albernheit blosszustellen. Nichtsdestoweniger bin ich überzeugt, dass dies Vermögen nicht gut thut, sondern einzig Schmerz verursacht. Ich möchte hinzufügen, dass es mir, da wir täglich Männer von denselben Voraussetzungen zu entgegengesetzten Schlüssen kommen sehen, als eine zweifelhafte Vorsicht erscheint, zu positiv über irgend einen komplizierten Gegenstand zu sprechen, wie sehr sich auch ein Mensch von der Wahrheit seiner eigenen Schlüsse überzeugt fühlen mag. Und nun, können Sie mir meine Freimütigkeit vergeben? Obgleich wir einander nur ein einziges mal begegnet sind, schreibe ich Ihnen, wie einem alten Freunde, denn das sind meine Empfindungen Ihnen gegenüber."

The chief value of the German biography consists in its setting forth the early recognition, the rapid spread, and the present acceptance of Darwinism in Germany. Dr. Kraus has always an easy case where he is displaying the old truth about a prophet among his own kindred. It was not until after we had well stoned our prophet that the nation began to recognise the reality of his mission; and, as Dr. Kraus remarks, it was not until after we had lost him that England was awakened to the true magnitude of her greatest son. So it was that, Samson-like, he slaughtered his enemies even in his death, and this on a scale which would have astonished no one more than himself, could he have lived to see it.

Dr. Kraus's narrative everywhere glows with an enthusiastic admiration of Mr. Darwin's character, and on this account he deems no trait of thought, expression, or even of movement, too trivial for the purpose of rendering a mind's-eye portrait to his reader. On the whole, this word-painting is accurate, and the workmanship in good taste. As he himself remarks, however, exception may perhaps be taken in the latter respect to his having entered upon the religious opinions of the naturalist. But as he has only collected material upon this subject which had already been published, and as he re-publishes this material in an excellent spirit of toleration towards all varieties of religious belief, we do not ourselves think that he can be justly said to have overstepped the limits of good feeling.

From this brief notice it may be gathered that Dr. Kraus's book is both a thorough and an interesting piece of biographical work; and we must not forget to add that its interest is enhanced by two portraits of Darwin (one, the last that was taken, and the other a likeness of him as a young man), a picture of his house in Kent, and a facsimile of one of his letters.

GEORGE J. ROMANES

OUR BOOK SHELF

British Zoophytes; an Introduction to the Hydroida, Actinozoa, and Polyzoa found in Great Britain, Ireland, and the Channel Islands. By A. S. Pennington, F.L.S. (London: L. Reeve and Co., 1885.)

THE object of this book is to furnish a handy, and at the same time reliable, manual of British zoophytes, using

this term in somewhat the same sense as Dr. Landsborough did; and the author aims at making it do for the present generation of students what the reverend doctor's "Popular History of British Zoophytes" did for those of a former one.

In so far as the object of the author has been to furnish a catalogue of the Polyzoa and most of the Cœlenterata of the British Isles, this has been fairly fulfilled, and, as far as we have been able to judge, the catalogue is in most instances a reliable one; but the student will not find it a ready help to the determination of the species; for though in most cases the diagnoses of the genera are given, yet it is but rarely that there is enough of a hint given as to the specific characteristics of a form to enable its name to be even guessed at; so that the working biologist interested in naming the species he collects must still have by him the works of Gosse, Hincks, and Busk. The usefulness of this volume would undoubtedly have been vastly increased if the labour had been gone through of giving analytical tables of both the genera and species, and it seems to us very undesirable that new species should be introduced into a work like this without detailed diagnosis. The size of the volume need not have been greatly increased if a uniform diagnosis of the species had been attempted, for then no doubt would have been curtailed the quotations, often of no scientific value, from the writings of Dalyell and others.

We have also to regret that the list of the habitats seems to us not to have been judiciously selected. Thus, in the case of some of the rarer forms, it is not unusual to find the exact English localities given, but these followed by such indefinite indications as "Irish" or "Scotch" coasts.

In the introductory chapter we find a somewhat ambitious attempt to write the history of the progress made from 1599 to the present time in our knowledge of "zoophytes." We have no wish to be critical on the facts mentioned, but to find the writings of Trembley, Peyssonnel, Réaumur, Ellis, and Fabricius quoted, and the name of Esper, emphatically the eighteenth-century authority on this "group," not even alluded to, strikes us as curious.

As long as the author had the writings of Hincks, Busk, or Gosse to depend on, there he has been at his ease; but in the few cases where he has had to go unaided, as among the Alcyonaria, it is evident that he would have been the better for some help. In such instances, as indeed all through his work, he would have found more assistance from "Carus Prodomus Faunæ Mediterraneæ" than from isolated papers in our scientific journals.

The bibliography in Appendix A is quite unworthy of the name. From it alone no student would, without assistance, find out even what the authors wrote about. Fancy bibliographical references in these modern days, and in a work written for the present generation, of this style:—

1742. Réaumur, "Histoire des Insectes."

1821. Deslongchamps, "Encyclopédie Méthodique."

1838. Milne-Edwards, "Recherches sur les Polyps."

1864. Rev. A. M. Norman, "Contributions to 'Ann. of Nat. Hist.'" &c.

1884. Andrés, "Die Actinien."

In Appendix B—the glossary—many words are given without any explanation of their meaning; thus, while we learn that *aperture* is "an opening or orifice," and that *orifice* is an "opening," that *apex* is "the top of anything," &c., we have such words as the following left unexplained: *avicularia*, *bathymetrical*, *calyx*, *epistome*, *funiculus*, and so on.

It is just on such matters as we criticise that we have a right to expect in a compilation that care should be taken. The general usefulness of such a volume depends on the way in which each detail is worked out. Motives that the reader of the preface will understand make us

refrain from any criticism on the plates, save that the figures are for the most part of necessity from the originals in Van Voorst's well-known series.

Handbook of Jamaica, 1885-86. (London: Stanford.)

THIS is one of the most comprehensive books of the kind that has come under our notice. Everything connected with this interesting colony finds a place in it. The history of the island, for instance, and the geographical description of it might be read with advantage by the most general reader. Of special interest to scientific readers is the full account of the public gardens and plantations, now under the efficient control of Mr. Morris, whose reports we have noticed from time to time as they were published. In the "Handbook," however, a history of the department since 1774 is given; and it is curious to notice the influence it has had on the prosperity of the island. Except pimento, "that child of nature," and a few others of comparatively little value, most of the staple products of Jamaica are derived from exotics or plants introduced from other parts of the globe. Thus the sugar-cane, in its several varieties, coffee, the mango, logwood, cinnamon, the bamboo, mulberry, mimosa, camphor, clove and pepper plants, and many other products of great commercial importance to the island, were unknown a century and a half ago. The manner in which they were brought in is given from historical sources. Thus, that most important industry, cinchona-planting, was only introduced in 1861, on the recommendation of the late Sir William Hooker; the first seeds were planted in the Botanic Gardens, and the first plants reared and distributed from there. In 1884 73,533 lbs. of cinchona bark, valued at 16,327*l.*, were exported from Jamaica. Many other examples of the great economical benefits of these Botanic Gardens on Jamaica might be selected from the interesting historical account of them given in this handbook. The sketch of the Jamaica Institute is also of much interest.

Syllabus of a Course of Lectures on Physiology, delivered at Guy's Hospital. By Dr. P. H. Pye-Smith. (London: J. and A. Churchill, 1885.)

THIS volume consists of the outlines of lectures given from time to time by the author at Guy's. The author, in publishing it, aims at giving the student a help to systematic reading and self-examination, as also to recall to all who take an interest in physiology, the chief facts of this important subject.

Consisting, as it does, of the heads and indications of subjects, this work is one that naturally cannot, in the ordinary sense of the term, be read through, nor will it serve in any way to cram a student for an examination: but we have kept it by us, and from time to time returned to its pages with ever-increasing interest. Though long past the period of life usually described as the "student stage," the ideas presented to us in this book, whether concerning facts, theories, or the deeply-interesting history of the subject, have compelled us to become students again, and we feel it a duty to urge our younger brethren, who are engaged in their first studies of physiology, to consult this little volume, as it is meant to be consulted; and if there be in them the smallest measure of an aspiration for a knowledge of a science as important as it is fascinating; if they be earnest, honest students, they will thank us for calling their attention to a volume which, in a small space, compasses so vast a subject.

Nature and Her Servants; or, Sketches of the Animal Kingdom. By Theodore Wood. (London: Society for Promoting Christian Knowledge, 1886.)

THIS is a well-intentioned little work, illustrated by a set of, for the most part, unobjectionable woodcuts. It is intended for the young, and so scientific terms have been almost wholly discarded. The author states very cor-

rectly, that in order to impress a fact upon the mind of a child, that fact must be presented in an interesting and attractive manner, and it is presumably bearing this in mind that he has selected the title to his volume, for children soon learn to know all that is attractive and interesting in the conception of a servant, and the child that reads the introductory chapter to these sketches of the animal kingdom will have this subject brought before him in full detail. But as the thinking child reads on, will his tender mind not be frightened at the notion so forcibly dwelt upon by Mr. Wood, that this serving Nature means that the strong servants should kill and swallow the weak; that while by one law of "Mistress Nature" the servants are to increase and multiply, by another law of the same Dame the feeble and the little ones are destroyed by the strong and the big, and that it is thus that these servants, now become foes, "fulfil their trust." The young inquirer who reads this on the first page may find it hard to agree with the statement on the last page, that "Nature is a good mistress, and provides her servants with all that they may require."

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.]

The Whole Duty of a Chemist

I HAVE read with much interest your article on "The Whole Duty of a Chemist." To me it appears perfectly clear that he who does good work in professional science and is paid highly for it, is accorded less honour than he who does equally good work in original scientific research and receives no personal payment, because the former receives a pecuniary reward for his labour whilst the latter does not; the least honour is given where there is the least self-sacrifice. The man who does original research with the ultimate object of securing remunerative scientific employment, works with a less unselfish motive and object than he who does such research from a pure love of truth and a desire to benefit mankind. But whilst the pursuit of new knowledge has always been considered a nobler occupation than the pursuit of money, most scientific investigators do some remunerative work, and workers in both departments are necessary for the general welfare. G. GORE

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The Recent Star-Shower

LA pluie extraordinaire des étoiles filantes du 27 Novembre, 1872, s'est renouvelée cette année le même jour et à peu près avec la même intensité. D'après les télégrammes et les relations que nous avons reçues en grand nombre jusqu'à présent, il résulte que le phénomène en question a été remarqué dans toute l'Italie depuis les Alpes jusqu'à l'extrémité de la Sicile, et qu'il se produisit partout sous les mêmes formes. Il commença à la tombée du jour. A Tarente, à 5 heures du soir, les étoiles jaillissaient et filaient en lignes si compactes qu'elles perçaient de temps en temps l'obscurité déjà avancée de la nuit. A Palerme quelques-uns de nos anciens élèves ingénieurs comptèrent 4600 météores de 5h. 15m. à 6h. 30m. A cette heure la pluie météorique se manifestait en plusieurs autres endroits avec une abondance tout à fait surprenante.

Dans notre Observatoire on commença à explorer le ciel à 6h. du soir (temps moyen de Rome). Nous avons suivi la même méthode que je suivis en 1872; les observations actuelles peuvent en conséquence être comparables avec celles d'alors. Comme j'eus déjà plusieurs fois l'occasion d'exposer cette méthode je crois à propos de l'omettre ici. Je me bornerai à rapporter les résultats obtenus de 15 en 15 minutes; et afin de mieux éclaircir ma